

**Patent claims**

1. A run-to-run method for the computer-aided monitoring  
and controlling of a manufacturing process of a  
5 plurality of wafers,  
in which the wafers are subjected to at least one  
manufacturing step;  
in which at least one of the processed wafers is  
marked according to a deterministic selection  
10 criterion in such a way that it can be subjected to an  
inline SPC measurement;  
in which the manufacturing process is controlled on  
the basis of the result of the inline SPC measurement  
of the wafer, and  
15 in which at least one wafer necessary for the run-to-  
run method and also for the inline SPC method is  
selected according to the deterministic selection  
criterion.
- 20 2. The method as claimed in claim 1, in which the  
deterministic selection criterion is determined by  
means of rules.
3. A device for the monitoring and controlling of a  
25 manufacturing process of a plurality of wafers, with a  
processor which is set up in such a way that the  
following method steps of a run-to-run method can be  
carried out:  
carrying out at least one manufacturing step on the  
30 wafers;  
marking at least one of the wafers according to a  
deterministic selection criterion in such a way that  
it can be subjected to an inline SPC measurement, at  
least one wafer necessary for the run-to-run method

and also for the inline SPC method being selected  
according to the deterministic selection criterion;  
and

5       controlling the manufacturing process on the basis of  
the result of the inline SPC measurement.

4.   A computer-readable storage medium, in which a program  
for the monitoring and controlling of a manufacturing  
process of a plurality of wafers is stored, the  
10       monitoring and controlling being carried out by means  
of a run-to-run method, which program executes the  
following method steps when it is run by a processor:  
carrying out at least one manufacturing step on the  
wafers;  
15       marking at least one of the processed wafers according  
to a deterministic selection criterion in such a way  
that it can be subjected to an inline SPC measurement,  
at least one wafer necessary for the run-to-run method  
and also for the inline SPC method being selected  
20       according to the deterministic selection criterion;  
and  
controlling the manufacturing process on the basis of  
the result of the inline SPC measurement.

25   5.   A program element for the monitoring and controlling  
of a manufacturing process of a plurality of wafers,  
the monitoring and controlling being carried out by  
means of a run-to-run method, which element executes  
the following method steps when it is run by a  
30       processor:  
carrying out at least one manufacturing step on the  
wafers;  
marking at least one of the processed wafers according  
to a deterministic selection criterion in such a way

that it can be subjected to an inline SPC measurement,  
at least one wafer necessary for the run-to-run method  
and also for the inline SPC method being selected  
according to the deterministic selection criterion;  
5 and  
controlling the manufacturing process on the basis of  
the result of the inline SPC measurement.